REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-2 and 5-6 are pending before this amendment. By the present amendment, claims 1 and 5 are amended. No new matter has been added.

In the office action (page 2), claims 1-2 and 5-6 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,470,004 (Murata) in view of U.S. Patent No. 7,085,377 (Norr) and U.S. Patent No. 6,802,035 (Catreux). The "et al." suffix is omitted from the Catreux reference name.

The Applicants have amended claim 1 to clarify the presently claimed invention and to traverse the Examiner's rejection.

Claim 1 now recites, inter alia:

> --a capacity managing unit for dividing the source-coded data into divided data for a plurality of channels, and generating header information **for reconstruction of** ~~**corresponding to**~~ the divided data;
> a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands; and
> a transmitting unit for multiplexing, modulating and transmitting the channel-coded data--.

The examiner apparently concedes that Murata is different from the claimed invention, because Murata does not teach "a source encoding unit for encoding data to be transmitted and generating source-coded data"; "a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands"; "and multiplexing, modulating and transmitting the channel-coded data".

To cure this deficiency of Murata, the examiner alleges that these above limitations not disclosed by Murata are fundamental processing steps of a digital communication system, particularly, in the transmitter chain, where the examiner cites to Norr for allegedly teaching a "source encoding unit for encoding data to be transmitted and generating source-coded data" in Fig. 3, element 202; "a channel encoding unit for encoding the divided data" "and generating channel-coded data" in Fig. 3, element 218; and "multiplexing, modulating and, transmitting the channel-coded" in Fig. 3, element 220; col. 1, lines 7-51.

Then the examiner concludes that it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the fundamental processing blocks of the transmitter chain, taught by Norr, into Murata, depending on a specific application, and a predictable result still can be expected.

Further the examiner states that Catreux also discloses the claimed subject matter "a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands" in a method for optimizing data That is, the examiner alleges Catreux teaches a method for adaptively selecting different combination of modulation and coding schemes in a plurality operation environments (Le. TDMA, FDMA, OFDM) based upon the condition of the channel communication. More particularly, selective coding is applied to each transmitted data stream (col. 5, lines 57-60). Then the examiner concludes by stating it is well-known in the art for having channel condition constantly vary due to a variety of factors (Le. interference, multi-path fading, etc.), where the examiner states that it would have been

obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of optimizing data transmission by use of adaptive modulation and coding, taught by Catreux, into Murata and Norr to further enhance the robustness of the system.

However, the presently claimed invention provides a transmitting apparatus and method for **dividing data in order to transmit channel-coded data through a plurality of channels from multiple broadcasting sites and transmitting data having header information so as to reconstruct the data** in a receiving apparatus (specification at page 2, lines 11-15). Further, the applicants respectfully point out that the **communication system** of Murata is totally different from the disclosed **broadcasting system** of the presently claimed invention. That is, Murata merely discloses a channel management which is necessary for multilateral communication environments such as a mobile communication, but Murata does not teach, disclose or even suggest allocating predetermined data, e.g., packet data or a program, to a plurality of channels and generating header information for recording/reconstructing of the divided data relating to the allocating in the broadcasting system as disclosed by presently amended claim 1 of the presently claimed invention.

In contrast, the applicants respectfully submit that the invention of Murata is **only** about ATM communication system as TDMA scheme among communication systems. In the ATM communication system of Murata, data is transmitted through slot as a form of the **ATM cell**. ATM cell is a packet of **fixed length for ATM communication system**.

Accordingly, Murata merely discloses allocating ATM cell to other slot according

to slot capacity, but Murata does **not** teach, disclose or even suggest dividing data for a plurality of channels as disclosed by amended claim 1 of the presently claimed invention. That is, in the ATM communication system of Murata, data is transmitted as ATM cell, **packet without dividing data for a plurality of channels**. Further, Murata merely discloses information of instructing ATM cell insertion into an allocated user data channel and information of instructing available slot position in a user data channel of another terminal station. Therefore, since Murata does not disclose dividing data for a plurality of channels, **Murata does not disclose generating header information for reconstruction of the divided data**, as disclosed in amended claim 1 of the presently claimed invention.

Additionally, as should be appreciated by the examiner, Norr and/or Catreux merely discloses a multi-stream broadcasting system for transmitting a plurality of streams having different rights to access from each other. However, nowhere in Norr and/or Catreux discloses, suggests or even suggests allocating predetermined data, e.g., packet data or a program, to a plurality of channels and **generating header information for reconstruction of** the divided data, as disclosed by amended claim 1 of the presently claimed invention.

Therefore, the presently claimed invention provides an efficient digital broadcasting service by transmitting channel-coded data through a plurality of frequency bands from multiple broadcasting sites that overcomes limitations of the maximum data transfer rate in the conventional digital broadcasting system because a broadcasting station has a certain frequency band to transmit different services based on the digital broadcasting standards. Further, the presently claimed invention provides

a system for having a higher data transfer rate than a conventional digital broadcasting service having only one frequency band to accommodate various needs of service users (specification at page 9, lines 18-23). Accordingly, Murata, Norr, or Catreux, either alone or in combination, fail to disclose or suggest amended claim 1 above.

Therefore, the applicants respectfully submit that nowhere in Murata nor Norr nor Catreux, neither alone nor in combination, are the limitations of amended claim 1 disclosed or suggested, which recites inter alia: --a capacity managing unit for dividing the source-coded data into divided data for a plurality of channels, and generating header information for reconstruction of the divided data; a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands; and a transmitting unit for multiplexing, modulating and transmitting the channel-coded data--.

In regards to claim 2, the applicants respectfully submit that claim 2 is allowable at least since it depends from claim 1, which is now considered to be in condition for allowance for the reasons above.

As to independent claim 5, independent claim 5 recites similar features to those found in claim 1. Therefore, for reasons analogous to those argued above with respect to claim 1, claim 5 is patentable over the applied references.

In regards to claim 6, the applicants respectfully submit that claim 6 is allowable at least since it depends from claim 5, which is now considered to be in condition for allowance for the reasons above.

For the reasons set forth above, the applicants respectfully submit that claims 1-2

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and 5-6, now pending in this application, are in condition for allowance over the cited references. Accordingly, the applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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